

WHAT IS CLAIMED IS:

1. A screen for managing light comprising:
a substrate; and
5 a polymeric composition disposed on the substrate, the polymeric composition comprising
adhesive material; and
dispersed phase material disposed as a plurality of elongated structures
within the adhesive material, each elongated structure having a major axis, wherein
10 the major axes of the elongated structures are substantially aligned and the
dispersed phase material has an index of refraction that differs by at least 0.01 from
an index of refraction of the adhesive material.
2. A screen according to claim 1 wherein the screen comprises a rear
15 projection screen.
3. A screen according to claim 1 wherein the screen comprises a front
projection screen.
- 20 4. A screen according to claim 1 wherein the screen manages light to provide
a first viewing angle in a first direction and a second viewing angle in a second direction,
the first direction being perpendicular to the second direction, and wherein the adhesive
composition provides the display with a first viewing angle that is broader than the second
viewing angle.
- 25 5. A screen according to claim 2 further comprising a lenticular structure.
6. A screen according to claim 5 further comprising a polarizer.
- 30 7. A screen according to claim 1 further including a fresnel lens.

8. A screen according to claim 1 further including a polarizer.

9. A screen according to claim 3 further including a reflective element.

5 10. A screen according to claim 9 further including a polarizer.

11. A method of making an optical element such as a screen or display with preferential light scattering directions, the method comprising:

10 forming a polymeric composition comprising a first polymeric material and a second polymeric material dispersed within the first polymeric material, wherein an index of refraction of the first polymeric material differs by at least 0.01 from an index of refraction of the second polymeric material; and

15 dispensing the polymeric composition on a substrate, wherein the dispensing results in the second polymeric material forming a plurality of elongated structures within the first polymeric material, each elongated structure having a major axis with the major axes of the elongated structures being substantially aligned.

20 12. The method of claim 11, wherein dispensing the polymeric composition comprises dispensing the polymeric composition on a substrate at a temperature wherein a shear viscosity of the second polymeric material is within the range of 0.5 to 2 times a shear viscosity of the first polymeric material.

25 13. An optical system comprising:
an illumination source for providing light,
a screen having a incident surface for receiving light from the illumination source and a viewing surface, the screen comprising:
a first polymeric material and a dispersed phase material disposed as a plurality of elongated structures within the first polymeric material, each elongated structure having a major axis, wherein the major axes of the elongated structures are substantially aligned and
30 the dispersed phase material has an index of refraction that differs by at least 0.01 from an

index of refraction of the first polymeric material, and wherein the elongated structures are sized, shaped and positioned to asymmetrically diffuse light from the illumination source.

14. An optical system according to claim 13 wherein the screen comprises a rear projection screen.

15. An optical system according to claim 13 wherein the screen manages light to provide a first viewing angle in a first direction and a second viewing angle in a second direction, the first direction being perpendicular to the second direction, and wherein the first composition provides the display with a first viewing angle that is broader than the second viewing angle.

16. An optical system according to claim 13 further comprising a lenticular structure.

17. An optical system according to claim 13 further comprising a polarizer.

18. An optical system according to claim 13 wherein the screen further comprises a fresnel lens.

19. An optical system according to claim 13 further including a reflective element.

20. An optical system according to claim 13 wherein the illumination source provides polarized light in a polarization state.